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STANDARDS IN THE USSR

To clarify the meanings and applications of Russian terms and abbreviations used in the field of standardization, the following excerpts have been compiled from several sources.

From Chapter II "The Terminology of Standardization," of the book Standartizatsiya i Normalizatsiya v Mashinostroyenii (Standardization and Normalization in Machine Building), A. I. Baranov, V. V. Kuz'min, Mashgiz, 1949:

The terminology of standardization cannot be considered as an established, approved terminology. The most probable cause for the lack of uniformity in the terms encountered is that the terms used in the various countries, connected with the history of the inauguration and development of their own standardization, had different interpretations and applications.

All terms encountered in literature and practice may be classified as: (1) terms used to designate standardization processes, and (2) terms used for the division of standards into separate forms.

1. Standardization Processes

This group includes such terms as "standardization," "normalization, "unification," "simplification," "typization," none of which has ever been given a fixed definition.

a. Standardization -- All the authors defining this basic term emphasize two phases: the establishment of uniformity in place of multiformity, and the creation of a sample, i.e., the development of a series of determined properties, designations, and norms which the given article, process, or method must satisfy.

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Since there is no set definition of the modern concept of this term, we shall use the following: Standardization is a system of measures for the establishment, development, and introduction of uniform, compulsory, exemplary properties and qualities of articles and their parts, materials, production processes, testing methods, organizational conditions, designations and units of measurement, providing for limitation of their number to an expedient minimum.

b. Normalization -- This term was encountered in prerevolutionary Russian technical literature, applied to the standardization of machine parts. Until recently, the terms standardization and normalization were used interchangeably in machine building.

By Decree No 1523 of S. narkom (Council of Peoples Commissars), 23 August 1940, the term "normal" is to be used to designate departmental and plant standards, while the term "standard" may be used to refer only to a document of all-Union significance. Hence, normalization means standardization on a departmental or plant scale.

c. Unification -- This term is usually understood to signify the elimination of extraordinary diversification in articles, assortments, materials, etc. Furthermore, no changes are incorporated into unified objects. Unification is one of the basic phases in the standardization process since, in that process, uniformity is an immediate objective. Considering that unification is a part of the broader concept of standardization, it may be conducted in the case of both standardized and nonstandardized objects, e.g., the unification of a special instrument or the unification of any size variation in a single class of items under previously standardized production. Thus, unification must be considered a process connected with standardization, but not necessarily an integral part of it.

Unification means the elimination of an extraordinary multiformity of types and type-sizes of articles and their parts, materials, production processes, testing methods, designations, units of measurement, etc., by joining them together and reducing them to the greatest possible extent.

d. Simplification -- The term simplification (simplifikatsiya) embodies the same idea as unification and is not so widely used as the latter term. It is also duplicated in meaning by the word "uproshcheniye." The word must therefore be dropped from use.

e. Typization -- This term is most frequently understood to mean the selection from among all articles of a given designation of a type of article most rational from the technological and economic standpoints. In its indicated sense the term typization may be replaced by the terms standardization or normalization. If we have in mind only the picking and bringing to a state of uniformity of the object dealt with, the term unification may be used. The term typization is most used in the field of technological processes in the establishment of uniform methods for processing standard parts of machines or surfaces.

2. Forms of Standards and Normals

Standards may establish the complete and partial characteristic of an object. In connection with this, the following terminology for the various forms of standards (pertaining also to plant and departmental norms) was established and regulated by "Instruction No 1 on the Form for Establishment of State All-Union Standards," issued by the All-Union Committee on Standards in the Council of Ministers USSR.

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a. Standards of Classification (SK) establish the classification of objects according to basic and detailed indexes, according to characteristics of utilization and constructive indexes. In addition, this category includes standards establishing uniform nomenclature for objects and their conventional designations.

b. Standards of Types (ST) establish the qualitative and geometrical characteristics of objects (parameters, sizes, etc.)

c. Standards of Grade and Dimension (SR) establish the geometrical characteristic of objects, showing shape, nominal dimensions, and tolerances.

d. Standards of Technical Conditions (STU) establish the qualitative characteristic of an object (appearance, physicochemical and mechanical properties, etc.), showing tolerances with respect to qualitative indexes. The STU covers only those properties and indexes of a standardized object upon which those properties affecting utilization and important for the consumer depend.

e. Standards Covering Rules for Acceptance and Methods of Testing (SMI) establish rules and methods for selecting samples, external examination, and methods of testing (analysis).

f. Standards for Packing and Marking (SU) establish rules for packing and marking standardized objects. These standards are established separately if they can be applied to a number of objects.

g. Standards of Norms (SN) establish the most rational rules and norms to be used for guidance in the planning, preparation, and utilization of constructions and objects.

h. Standards for Designations, Scientific and Technical Terminology, and Units of Measurement (SO).

Departmental and plant normals are technical documents establishing qualitative and geometrical characteristics of parts, testing methods, etc. Departmental and plant normals may be established for objects not covered by GOST, and for objects covered by GOST if it is necessary to provide for (a) a reduced assortment of standardized parts for limiting types and sizes to suit the needs of a given department or plant, or (b) separate dimensional and qualitative indexes in the development of GOST.

In all cases where there is a GOST for a given object, the indexes of the departmental or plant normals must not fall below those of the GOST.

Departmental and plant normals are divided, according to the extent of their distribution, into ministry normals (departmental) and plant normals (enterprise), established for objects of intraplant significance.

Departmental and plant normals may be either permanent (no limit to the effective period) or temporary. The normals also may be compulsory or recommended.

From the article "Standartizatsiya" in Bol'shaya Sovetskaya Entsiklopediya, Vol LII, 1947:

In the USSR standardization has assumed broad dimensions only since 1925, when by decree of the Council of People's Commissars USSR there was organized the All-Union Committee on Standardization (VKS, Vsesoyuznyy Komitet Standartizatsii), which worked out and approved all-Union standards (OST, obshchesoyuznyy standard). Along with these all-Union standards, obligatory for all

branches of industry, economic organizations and people's commissariats worked out and put into effect the so-called limited-action or departmental standards (ST), binding only within the given department, and all types of technical conditions (tekhnicheskoye usloviye) and plant normals (zavodskaya normal'), binding only within the given enterprise. From the abolition of the VKS in 1936 until 1940, the economic people's commissariats and departments developed and approved all-Union standards directly. On 9 July 1940 the Council of People's Commissars USSR abolished the existing order under which all-Union standards for production were approved by the people's commissariats executing the production. At the same time, there was created under the Council of People's Commissars USSR (at present under the Council of Ministers USSR) the All-Union Committee on Standards (Vsesoyuznyy Komitet Standartov), which has the function of developing and approving state all-Union standards (GOST, gosudartsvennyy obshchesoyuznyy standard) binding for all branches of the national economy.

In the decree of the Council of People's Commissars on the All-Union Committee on Standards, the state all-Union standards were established as the single form of standard for the USSR. Ministries and departments were forbidden to make changes in all-Union standards which were approved earlier. Henceforth, all state all-Union standards are to be approved by the All-Union Committee on Standards, and some especially important state all-Union standards, after review by the All-Union Committee on Standards, are presented for approval to the Council of Ministers USSR.

From the article "GOST" in the Kratkiy Tekhnicheskiy Zheleznodorozhnyy Slovar' (Concise Technical Railroad Dictionary), State Railroad Transport Publishing House, Moscow, 1946:

GOST is the abbreviation for state all-Union standard, which must be used in all branches of the USSR national economy in the production of materials, equipment, and other items, and also in the application of norms, classifications, designations, measures, etc. GOST are approved by the All-Union Committee on Standards, and especially important ones by the Council of Ministers USSR. The content of the GOST by sections has been established by a special regulation as follows:

1. Definition and name of the items or norms

2. Their classification

3. Technical conditions (tekhnicheskoye usloviye) (external appearance, form, dimensions, mechanical and physical properties, chemical composition, permitted deviations)

4. Rules for acceptance (procedure for taking tests, place of taking tests and their extent, by whom executed)

5. Methods of testing (detailed description)

6. Packing (methods of packing, type and dimensions of packing material)

7. Labeling (stamps, marking, and labels, their form and dimensions, place and method of application)

8. Certification (content of the certificate, by whom drawn up, to whom sent)

9. Storing and transporting (method of storing, place and length of storing, method of transporting, safety measures, and measures against spoiling).

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All GOST are given numbers established by the All-Union Committee on Standards, and after this number there is attached, after a hyphen, two digits indicating the year of approval. If the GOST is revised in the future, the number is kept, and only the digits indicating the year of approval are changed. Thus, if GOST 398-41 is revised in 1945, its title will be changed to read GOST 398-45.

From the article "Standartizatsiya," in Kratkiy Tekhnicheskiy Zheleznodorozhnyy Slovar':

All established technical conditions (tekhnicheskoye usloviye), norms, concepts, etc., if having an all-Union importance, are made up according to a definite form as state all-Union standards (GOST) approved by the All-Union Committee on Standards under the Council of Ministers USSR. The All-Union Committee on Standards also establishes the time limits and procedures for introducing all-Union standards, numbers and registers the standards, and organizes and invites ministries, departments, scientific research institutions, and others to develop standards. The publication of GOST is done only through the All-Union Committee on Standards. Technical conditions and norms concerning the products and method of use of a particular department or ministry are worked out and published by these organizations independently or in conjunction with other interested ministries and are called standard normals and department technical conditions (vedomstvennoye tekhnicheskoye ushoviye).

From an article in Elektrichestvo, No 8, 1949, page 78:

VTU (vedomstvennyye tekhnicheskiye usloviya) may be defined as a (government) department technical condition for manufactured parts. An example of a VTU is VTU NKEP (People's Commissariat of Electrical Industry) 128-43, which refers to the Type PRTO rubber-insulated cable used in conduit wiring.

From the introductory section, "Standardization in the Printing and Publishing Industry in the USSR," from the book, Basic Standards and Technical Conditions in Effect in the Printing and Publishing Industry (as of 1 June 1941), V. A. Istrin, Gizlegprom, Moscow/Leningrad, 1944:

Soviet standardization actually began in 1925 when the Council of People's Commissars USSR (SNK SSSR) established the All-Union Committee on Standardization under the Council of Labor and Defense (VSK/STO) and assigned to this committee the tasks of developing an over-all plan for Soviet standardization and the fixing of standards.

In the initial period, when the number of Soviet standards was relatively small, the power to fix all-Union standards (OST) was reserved exclusively for VSK/STO. However, as standardization became an increasingly important field, VSK/STO began to specialize in fixing only the basic standards and the most important standards of interindustrial concern, and the power to fix all other standards was given in 1932 - 1933 to the people's commissariats. The two distinct types of standards were known, at that time, as the OST of VSK and the OST of the NK, respectively. In 1936, the VSK/STO was abolished, and all power to fix standards was transferred to the people's commissariats.

A very important step in the development of Soviet standardization was the creation in mid-1940 of an All-Union Committee on Standards under the Council of People's Commissars USSR (VKS-SNK); this committee was given the power to fix state all-Union standards (GOST). The people's commissariats and the departments were given the right to fix only technical conditions in their own spheres of production, and these technical conditions had to conform with the desires of the organizations using the products manufactured....

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Standards in the USSR are worked out as a rule by the scientific research institutes of industries.

Basic problems of Soviet standardization are: (1) to define a minimum for the number of products while at the same time allowing a sufficient number to be produced; (2) to guarantee the proper quality and supply of products; and (3) to plan and carry out production on the basis of recent achievements in techniques and socialist methods of labor.

Standardization in the Soviet printing and publishing industry began in 1928.

Widespread development of printing and publishing standardization began with the Second Five-Year Plan, in conjunction with the development of Soviet polygraphic machine construction and the organization in Moscow of two scientific research institutes, the Printing and Publishing Institute of the Unified State Publishing House (NII OGIZ) and the Printing Institute of the People's Commissariat of Machine Construction (NII NKMP), which were merged in 1938 into the Scientific Research Institute of Printing, Publishing, and Publishing Techniques of OGIZ.

The development of printing and publishing standardization from this point on was characterized by a number of peculiarities, among them the fact that printing and publishing were subordinated to different people's commissariats, thus affording no single state center for standardization. A single organization to manage printing and publishing standardization was formed in 1932 upon the initiative of the publishing houses themselves; this organization was the Printing and Publishing Standards Commission (PSK) of OGIZ. PSK, however, was only a coordinating agency, and its decisions were obligatory only for the basic and most important publishing societies. Therefore, the standards fixed by PSK were called departmental standards (VEST) rather than OST.

With the formation of the All-Union Committee on Standards under the Council of People's Commissars USSR.... the standards confirmed by PSK were no longer called VEST, but technical conditions (TU).

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